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Food Processors' Lobbying Activity and Farm Policy

by

Fidele Ndayisenga and Jean Kinsey

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Fidele Ndayisenga and Jean Kinsey*

c Fidele Ndayisenga, Ph.D., is a Research Associate at the Hubert H. Humphrey Institute of Public Affairs, University of Minnesota, and Jean Kinsey is a professor in the Department of Agricultural and Applied Economics, University of Minnesota.

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FOOD PROCESSORS' LOBBYING ACTIVITY AND FARM POLICY

Executive Summary

This study tests the hypothesis that lobbying by food firms does not contravene United States farm policy, particularly commodity programs. The research is important in the analysis and understanding of the difficulties of designing and reforming agricultural policies. If farm programs significantly benefit downstream food firms, there is effectively no countervailing power to the farm lobby because (1) farm input supply and marketing firms have been shown to benefit from existing farm policies - and have therefore no incentive to lobby against the policies - and (2) consumers and taxpayers, two important stakeholders in agricultural policies, are known to be quite inefficient in lobbying due to their "large-group" characteristics.

Information on food firms' total lobbying expenditure is combined with the behavioral assumption of profit maximization to generate an econometric model of lobbying expenditure allocation by food firms. The model is used to carry out the test.

The results indicate that food firms do not lobby to influence agricultural commodity markets. The ultimate implication is that the food processing sector of the agribusiness sector has no serious incentive to act as a countervailing power to the farm lobby in the forming or reforming of agricultural policy. Thus, attempts to reform agricultural policies will be resisted by a coalition of agribusiness and the farm sector.

A limitation of the study is that the hypothesis test does not separate agricultural commodities from other inputs to food firms. However, because agricultural commodities constitute almost half of the food firms' overall input costs, the test provides evidence about lobbying for agricultural policies.

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Introduction

The structure of current agricultural commodity programs have been shown to benefit input suppliers, marketing firms and farm commodity groups (Gardner; Alston, Carter, and Wohlgenant; Knudson, Penn and Boehm). It is an accepted proposition that these groups, in turn, influence the design and implementation of agricultural policy. Much less is known about the effect of lobbying by food processing and manufacturing firms on the structure of agricultural policy.

This study looks at the impacts of lobbying by the food manufacturing firms on farm policy. It is important in the analysis and understanding of the difficulties of designing and reforming agricultural policies. If farm programs significantly benefit downstream food firms, there is effectively no countervailing power to the farm lobby because (1) farm input supply and marketing firms benefit from existing farm policies - and have, therefore, no incentive to lobby against the policies - and (2) consumers and taxpayers, two important stakeholders in agricultural policies, are known to be quite inefficient in lobbying due to their "large-group" characteristics. Thus, attempts to reform agricultural policies will be resisted by a coalition of the agribusiness and the farm sector. An analysis of this issue requires the knowledge of whether food firms lobby in agricultural commodities markets, and if they do, the level of their lobbying expenditures in this market.

The objective of this paper is to develop a test of whether food firms lobby to influence agricultural commodity markets and if they benefit from that lobbying activity. The test is motivated

by the fact that while food firms may lobby in both their input and output markets, they do not typically record lobbying expenditures for each market separately. Available data only show the food firms' total expenditures on their lobbying activities. A test therefore, requires a method for sorting out the relative allocations of the total lobbying expenditures between the input (agricultural commodities), and the output (food products) market. The test focuses on lobbying in the input market. Because agricultural commodities constitute such a large share of the food firms' overall input costs, the test provides evidence about lobbying for agricultural policies.

The results of this inquiry are useful for at least two reasons. First, if food firms lobbying allocation to their input market is not significant, indirect evidence that food firms have little interest in lobbying for or against agricultural commodity programs will be established. If lobbying by food firms in their input market is significant, this study will help identify the amount of resources that food firms devote to lobbying in their input and output markets. In turn, this information permits the computation of the relative share of the total lobbying expenditure that goes to influence farm policy, the impacts of lobbying by food firms on the nature of those policies and on government transfers to the farm sector.

Interest of Food Firms in Agricultural Policies.

The manufacturing sector has been generally excluded from interest group analysis of agricultural policy for two related reasons. 1) Consistent with Engel's law, the share of food in total consumption declines with growth in per capita incomes, diminishing the effect of high food prices

on the cost of living and thus on the wage bill of the manufacturing sector. The decreased impact of food prices on the wage bill acts against manufacturers' involvement in agricultural policy issues. 2) The capital intensity of most businesses and industries increases with development, thus rendering producers' surplus less sensitive to changes in wages that may result from changes in farm level commodity prices (Baliscan and Roumasset). The problem with these arguments is that they treat the food manufacturing and the rest of the manufacturing sector symmetrically when the use of farm products, as inputs, is concentrated in food processing firms.

Connor reports that agricultural commodity inputs constitute an average 32% (48% if one includes semi-processed ingredients) of the total input cost of food manufacturing firms. In addition, the food processing industries are among the largest industries in the manufacturing sector. Agricultural policies that significantly affect the price and availability of agricultural commodities can potentially affect the profitability of food processing firms. Should this happen, food firms would be expected to react by lobbying against the continuation of agricultural policies harmful to their interests. If agricultural policies have no meaningful impact on the profit performance of food firms, they should not spend any significant amount of resources to lobby in that market. The motivation of this study is to develop a method to examine the evidence that might

support or refute the proposition that food firms lobby for or against agricultural commodity programs.

Lobbying by Food Firms in Their Output Market.

Whether food firms lobby in agricultural commodities markets or not, they would be

expected to lobby against government regulations that adversely affect their production processes and output markets. Businesses regularly complain about the regulatory burden, compliance costs, and unfair competition practices from trading partners.

A recent survey of food processors with $5 million or more in annual sales listed the following major concerns with government regulations: (1) Regulations governing operations, (2) regulations governing safety and labeling which makes the process of product development quite expensive and (3) regulations governing construction. In addition, unemployment insurance and property taxes were deemed too costly by the same food processors. The study also concluded that the initial processors of raw agricultural commodities are the most affected by government regulations. A chi-square test showed these regulations to significantly affect food processor operations (Torrok, Schroeder, and Menkhaus). The study also reported that, because larger sized food firms had a comparative advantage in complying with government regulations, they were crowding out smaller firms. It was estimated that in 1979, approximately 30 percent of clerical time and $3 billion was spent on complying with government regulations. Since these regulations originate from political markets and the cost involved, in terms of time and money, are argued to be substantial, food manufacturing firms have an interest in lobbying against them. These regulations, however, are unrelated to agricultural policies affecting their raw inputs.

Food firms also lobby the government for protection of their products against competing imports through tariff and nontariff measures. Lopez and Pagoulatos, for example, observed that food processing industries in the United States are characterized by relatively low import

penetration and export propensities. They also have more restrictive nominal tariff and nontariff barriers (NTBs) than other manufacturing industries which limits imports from foreign competitors. To secure these policies, firms spend resources to compete in the political market to influence trade barriers in their favor. Lopez and Pagoulatos estimated that the transfers to food processing firms, due to tariffs, amounted to $8.4 billion in 1972. Of these, $1.7 billion were for the meat products, $1.23 billion for dairy products, $1.05 billion for preserved fruits and vegetables, $475.7 million for grain mill products, $118.7 million for bakery products, $421.8 million for sugar confectionery, $1.8 billion for fats and oil, $1.08 billion for beverages, $116.6 million for beverages and $1.17 billion for tobacco manufacturers. These numbers would have been even higher if nontariff measures had been taken into consideration. The results indicate that food firms successfully lobby in their output market. Generating government revenue could not have been a primary motive since the government only collected $499.2 million in tax revenue from these tariffs. Clearly, lobbying expenditures by food firms may be directed toward government intervention in agricultural commodities markets, policies and regulations in the output market or both. Sorting out the impacts of their lobbying expenditures is the focus of this paper.

Theoretical Framework

Food firms may lobby in both their input and output markets, but they do not typically record lobbying expenditures for each market separately. One method to learn the allocations to various markets may be to design a survey asking food firms to estimate the amount of lobbying resources they allocate to each activity. However, survey cost and information confidentiality

makes this option unattractive. Alternatively, aggregate lobbying expenditures can be used to develop systematic estimates of lobbying expenditures in each market. Formal methodologies for estimating variable input allocations have been developed only recently. This research adapts a profit maximization approach to input allocation developed by Just, et al.

Following Coggins, et al., and Welliz and Wilson, lobbying is introduced into a profit maximizing model via a pricing function which determines the prices that economic agents receive for their output, or pay for their inputs, as a function of lobbying expenditures. The output (input) pricing function is assumed increasing (decreasing) and concave (convex) in lobbying expenditures, that is, there are decreasing returns to lobbying. In the absence of lobbying, the pricing function yields the market price. The pricing function is similar to Becker's influence function (Becker). However, the pricing function has the advantage of being defined in variables that are directly observable. This pricing function is also known as the lobbying or tariff formation function in the trade literature where it has been used to incorporate political markets into trade models.

Suppose a firm is engaged in lobbying in two activities (q, y). The firm's objective is to influence the prices (r, w) of activities (q, y). Let n_{oq} and n_{oy} denote the lobbying expenditures in activities q and y. The total observed lobbying expenditure to be allocated among the two activities is n_o. The goal is to estimate n_{oq} and n_{oy} from the knowledge of n_o and the behavioral assumption of profit maximization.

Assume that the firm chooses the level of output q and lobbying expenditures n_{oq} and n_{oy} to solve the following problem:

$$Max_{q,n_{oy},n_{oq}} A = r(n_{oq})q - C(w,q) / r(n_{oq})q - C(n_{oy},q)$$

$$\begin{array}{ll} with & w = g(n_{oy}) \\ s.t & n_{oq} + n_{oy} \leq n_o \end{array} \qquad (1)$$

where r( ) and g( ) are the output and input pricing functions respectively. These lobbying functions endogenize the input and output prices. C( ) is the minimum cost of producing output q. The problem includes a lobbying constraint. The constraint may originate from the restrictions imposed by the Federal Election Commission on the maximum amount that economic agents can contribute to the political process. In addition, if the firm was to spend its entire resources on lobbying, it would be unable to collect lobbying benefits because access to the latter is tied to ownership of productive assets. In this case, the lobbying constraint is internal to the firm. Assuming an interior solution, the first order conditions with respect to n_{oq} and n_{oy} are given by:

$$\frac{\partial r}{\partial n_{oq}} q = 0 \qquad (2)$$

$$-\frac{\partial C}{\partial n_{oy}} = 0 \qquad (3)$$

When combined, conditions (2) and (3) show that profit maximization requires marginal returns to be equalized in the two markets, that is, the firm must exhaust arbitrage opportunities. The objective is to use n_o and the first order conditions of profit maximization with respect to n_{oq} and n_{oy} to generate an estimable equation.

The elasticity with respect to the lobbying in the output and input market is:

$$e_{oq} = \frac{*r}{*n_{oq}} \frac{n_{oq}}{r} \quad ; \quad e_{oy} = \frac{*C}{*n_{oy}} \frac{n_{oy}}{C} \tag{4}$$

Equation (4) implies:

$$\frac{*r}{*n_{oq}} = \frac{e_{oq}\ r}{n_{oq}} \quad ; \quad \frac{*C}{*n_{oy}} = \frac{e_{oy}\ C}{n_{oy}} \tag{5}$$

Inserting Equation (5) in the first order conditions one obtains:

$$\frac{e_{oq}\ r\ q}{n_{oq}} = 8 \ Y \ e_{oq}\ r\ q = n_{oq}\ 8 \ Y \ n_{oq} = \frac{e_{oq}}{8} R_{oq} \tag{6}$$

Similarly

$$\frac{e_{oy}\ C}{n_{oy}} = \&8 \ Y \ n_{oy} = \&\frac{e_{oy}}{8} C \tag{7}$$

where R_{oq} is the revenue of the food firm and C is the cost of producing output q. The elasticities e_{oq} and e_{oy} are expected to vary between the two markets, among firms and overtime. Thus, the elasticities can be decomposed as follows:

$$\begin{aligned} e_{oq} &= a_q \% b_o \% d_t \\ e_{oy} &= a_y \% b_o \% d_t \end{aligned} \tag{8}$$

where a_q is the output market component, a_y is the input market component and b_o and d_t are the firm specific and time component respectively. Inserting equations (8) into (6) and (7) one gets:

$$n_{oq} = \left(\frac{a_q}{8} + \frac{b_o}{8} + \frac{d_t}{8}\right) R_{oq} \tag{9}$$

$$n_{oy} = -\left(\frac{a_y}{8} + \frac{b_o}{8} + \frac{d_t}{8}\right) C \tag{10}$$

Adding (9) and (10) gives:

$$n_o = a^q R_{oq} - a^y C + b^o (R_{oq} - C) + d^t (R_{oq} - C) \tag{11}$$

where

$$a^q = \frac{a_q}{8} \; ; \; a^y = \frac{a_y}{8} \; ; \; b^o = \frac{b_o}{8} \; ; \; d^t = \frac{d_t}{8} \tag{12}$$

After the specification of the error structure, equation (11) can be estimated and the parameter estimates, if significant, can be inserted into (9) and (10) to find the allocations of the lobbying inputs between the input and output market. Note that (11) makes no assumption about the market structure. The revenues and costs may have been generated by a competitive firm, monopolistically competitive firm or any other market structure.

This approach to modeling expenditure allocation is based on the concept of a stochastic identity (Hornbaker, Dixon and Sonka). Consider a population of firms engaged in multiple lobbying activities. The intensity of lobbying is likely to vary across firms according to the perceived outcome. Therefore, the marginal productivities of lobbying have a distribution over a population

of firms. A stochastic identity arises because the productivities of the lobbying input likely vary across firms within a given industry.

In a stochastic identity, the observed dependent variable (n_o) is defined as the sum of products of a random variable which is conceptually fixed. The stochastic identity in this problem is represented by equations (9) and (10) where the random variables are n_{oq} and n_{oy} and the exogenous variables are R_{oq} and C. Suppose the estimated parameters are denoted as A^q, A^y, B^o and D^t. Then, the profit maximizing allocations of the total lobbying expenditure between the input and output markets can be computed using equations (9) and (10) as follows:

$$n_{oq} = (A^q B^o D^t) R_{oq} \qquad (13)$$

$$n_{oy} = -(A^y B^o D^t) C \qquad (14)$$

Not surprisingly, allocations of lobbying resources to each market are proportional to the returns generated by the two markets. In addition, the allocations implicitly depend on the relative returns since the estimating equation is derived from the first order conditions of profit maximization. An implicit assumption behind this model is that the lobbying input is a fully allocatable input. However, it is more likely that part of the total lobbying budget is non allocatable and benefits both the input and output markets. Another implicit assumption is that the allocation of the lobbying input takes the lobbying by other agents in the economy as given.

Data Requirements and Sources.

The data needed to estimate equation (11) are (a) costs and (b) revenues for the firms in the sample and (c) the lobbying expenditures by individual food manufacturing firms. Table I gives the names of the food companies involved as well their average lobbying expenditures, revenues and costs.

Data on costs and revenues for food firms were collected from various issues of the Moody's Industrial Manual and Standards and Poor's industry surveys between 1984 and 1992. An important limitation of these data sources is that the information they provide is limited to publicly traded (owned) food firms. If the firm is not publicly owned, the above sources do not provide any kind of financial informationon them. Thus, the sample of food firms used does not include privately owned food firms.

Data on lobbying contributions by food firms and agricultural commodity organizations are published by the Federal Election Commission on financial activities. The reports give information on the contribution of various groups to senate and house candidates and by party affiliation.

Table I. **Food Firms' Average Lobbying Expenditures, Revenues, and Costs.**

Food Company Names	Lobbying in $	Revenue in $000	Cost in $000
American Home Products	33,695	3,256,771	1,810,709
Anheuser Busch	63,153	7,128,067	4,473,367
Archel Daniel Midland Co.	150,280	4,935,115	4,544,357
Borden	14,200	24,708,455	3,930,629
Brown Forman	62,011	1,165,889	351,346
Castle & Cooke	11,450	1,546,155	1,294,787
Clorox	17,283	1,031,566	505,478
Coca Cola	187,952	7,401,114	3,815,053
Conagra	113,439	5,602,876	4,914,025
Dean Foods Company	7,383	1,100,968	887,383
Flowers Industry Inc	113,750	648,575	343,407
General Mills	95,135	4,355,500	2,482,100
Occidental Petroleum	42,225	16,915,345	13,393,758
Joseph E. Seagram & Sons, Inc	156,993	2,276,994	1,659,100
Kellog's	107,517	3,050,333	2,317,367
Mckesson Corporation	27,083	5,133,043	4,329,049
Nestle Enterprise Inc Group	42,317	18,043,144	11,258,022
PepsiCo	147,597	8,572,067	16,939,133
Philip Morris/Kraft Genfood	493,653	18,878,333	7,547,000
Quaker Oats	5,075	3,517,333	2,048,633
RJR Nabisco	202,900	11,651,000	6,868,333
Tasty Baking Company	4,833	222,360	151,699
Universal Foods	6,208	529,526	411,804
Wilson Food Corporation	5,228	5,728,433	1,600,922

Source: Averages are computed from data collected from the Election Commission Reports (Lobbying Expenditures) and from the Moody's Industrial Manuals (Revenues and Costs) over 1983, 1985 and 1987.

Data Limitations.

Lobbying data originate from complex election laws governing contributors, recipient and reporting requirements. Under U.S. Federal election laws, any American citizen can contribute funds to a candidate for Federal office or to political parties. However, individuals and owners of sole proprietorships that have contracts with governments are prohibited from contributing money to the political process. Federal election laws impose contribution limits to federal campaign spending. "Cash contributions" exceeding a hundred dollars as well as anonymous donations exceeding fifty dollars are simply prohibited. In any given year, individuals can contribute by check or any other traceable instrument a maximum of $25,000. Disclosure laws require every candidate for federal office to file reports with the FEC detailing both the income and expenditures of their campaigns. In addition, anyone who contributes an aggregate sum of $200 or more, must be identified by name, address, occupation and employer.

Federal campaign spending limits are not as restrictive as they appear. They contain a major loophole, generally known as soft money which encompasses any contributions not regulated by federal laws. Soft money is not subject to any contributions limits but may only be used to support state and local political activities. However, because of laxity in enforcement, part of the money ends up supporting federal elections. For this reason, the reported lobbying data constitutes the lower bound of political contributions.

Estimation and Results

Because of the assumption that the elasticities of lobbying with respect to the output price

and cost of inputs for food firms has three additive components, equation (11) is linear in parameters. The firm specific and time specific effects are represented by dummy variables that interact with profit for each firm and time period in the sample. The resulting empirical equation was estimated:

$$n_{oit} = \$_r R_{it} + \$_c C_{it} + \sum_i \$_i (R_{it} - C_{it}) D_i + \sum_t *_t (R_{it} - C_{it}) D_t + u_{it} \qquad (15)$$

$D_i = 1$ for the i^{th} firm and zero otherwise and $D_t = 1$ for the t^{th} time period (1983-1985) and zero otherwise. The total lobbying expenditure of firm i is n_{oit} in period t, R_{it} is the revenue for firm i in period t, C_{it} is the cost of the goods sold for firm i in period t and u_{it} a stochastic error term of unknown heteroskedasticity. The hypothesis that food firms' lobbying activity in the agricultural commodity market is not significantly different from zero can be formulated as:

$$\begin{array}{ll} \textit{Null hypothesis} & H_0 : \$_c = 0 \\ \textit{Alternative hypothesis} & H_a : \$_c \textit{ not } 0 \end{array} \qquad (16)$$

If the null hypothesis is not rejected, it can be concluded that food firms do not significantly lobby in their input market.

Equation (15) was estimated with SHAZAM econometric software using White's heteroskedasticity consistent covariance matrix estimator to correct for heteroskedasticity (White). Table II gives the results without the firm and time specific effects.

Interpretation of Results.

The results in Table II indicate that the coefficient on the variable COST which represents the lobbying in the input markets is not statistically different from zero. This means that food firms do not significantly lobby in their input markets and by implication do not significantly lobby in agricultural commodity markets. The result suggests that the food firms' primary political concerns are not with farm policy. For example, the major policy concerns of the Grocery Manufacturers of America (which represents most major processors and manufacturers of consumer food products in the United States) relate to the regulation of nutrition, food safety and quality, advertising policy, packaging and labeling, anti-trust regulations, evaluations of industry performance, import restrictions and consumer protection policies. Thus, lobbying resources will be spent on these issues rather than on lobbying to affect agricultural commodity markets. This suggestion is supported by the significance of the coefficient on the variable REVENUE which captures lobbying in the output market.

Failure to reject the hypothesis that food firms do not lobby in agricultural commodity markets is consistent with the view that, either food firms have market power in the agricultural commodity markets that allows them to negotiate lower prices despite government regulations, or they can pass through any cost increases to consumers, or both. Whatever the case may be, the ultimate implication is that the food processing sector of the agribusiness sector has no serious incentive to act as a countervailing power to the farm lobby in the forming or reforming of agricultural policy. This may be one reason why agricultural policy is so hard to change. There is

no offsetting lobbying by other interest groups. Therefore, if farm policy reform requires alternative lobbying pressures, one cannot hope for serious departures from current farm policies favored by commodity groups. The only credible countervailing pressure might be a financing constraint, originating from a mounting federal budget deficit. However, the latter affects indirect resource transfers from the taxpayer to the farm sector. It is possible to redesign farm policy to effectively give the producer the power to tax consumers directly through higher prices, as demonstrated by the sugar program. For these reasons, attempts to reform farm policy toward a more market oriented agriculture can reasonably expect serious frustrations. Even with the dwindling size of the rural constituency, food and agricultural policies may well be protected by a coalition of rural, urban and agribusiness interests that will retain transfers to farmers.

Table II. Food Firms Lobbying Expenditure Allocation Equation Estimates: Activities Effect.

VARIABLE NAME	ESTIMATED COEFFICIENT	STANDARD ERROR	T-RATIO 45 DF
REVENUE	0.108E-04	0.548E-05	1.96*
COST	0.142E-05	0.761E-05	0.190

R-SQUARE ADJUSTED = 0.88

* indicates significance at 5% level.

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